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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/750,106

12/30/2003

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10/22/2007

EXAMINER

BARTON, JEFFREY THOMAS

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

10/22/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/750,106

Applicant(s)

STRNAD, RICHARD J.

Examiner

Jeffrey T. Barton

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 5-7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 20031230.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of Group I, claims 1-4 in the reply filed on 15 August 2007 is acknowledged. The traversal is on the ground(s) that the examiner did not clearly indicate how the claims are independent and distinct, and argues that there would be no burden in examining the groups together. This is not found persuasive because the previous examiner pointed out exactly how the inventions are distinct, and pointed out the separate status of the respective groups based on their separate classification, which is commonly used as the basis for requiring restriction. The simple fact remains that the product of Group I can be made by numerous other methods besides that claimed in group II, the and the groups recite distinct sets of limitations. A clear burden would be present, since there is no apparent relationship between the respective groups and the searches required for the groups would be entirely different. Applicant further asserts that the portion of the MPEP relied upon as showing that restriction in this case is proper is erroneous. In response to such arguments, the Examiner can only respond that the MPEP is the basis for all procedures for prosecution before the USPTO, and the restriction is therefore proper.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 5-7 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or

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linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 15 August 2007.

### ***Information Disclosure Statement***

3. Three references cited on the IDS submitted on 30 December 2003 have not been considered. The documents listed at AA and AC are apparently foreign applications, but no copies of the references were provided. The document listed at AD is identified only as "Conf.# 6305", appears to be non-patent literature, and no copy has been provided.

### ***Claim Objections***

4. Claim 2 is objected to because of the following informalities:

The language of claim 2 is awkward. It is suggested that the limitation at lines 3-4 of claim 2 be amended to read, "applied electricity to the module could cause the module to act as an effective cooling device".

Appropriate correction is required.

5. Claim 3 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim, or amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form. Claim 3 recites only a hypothetical

limitation (i.e. "would produce"), which is not a positive recitation of the limitation. The scope of the claim is identical to that of claim 1.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The preamble of claim 1 recites, "A non linear, circular, spherical, planar, and two or three dimensional thermoelectricity generator", which is indefinite because it is impossible for anything to be simultaneously spherical and planar or circular and spherical. In addition, there is no positive antecedent basis for "the first" recited in line 3 of the claim. The same grounds apply to claims 2-4.

It is unclear what radii are being referenced as  $r_1$  and  $r_2$  at line 2 of claim 3, as these terms are not defined in the claims.

In claim 4, there is no positive antecedent basis for "the conduction" in lines 1-2 of the claim. In addition, it is unclear what "electrodes" are being referred to in line 2 of the claim. Claim 4 is treated herein as though "conduction between conductors" was recited in line 2 of the claim.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitchell et al. (US 3,601,887)

Regarding claim 1, Mitchell et al disclose a thermoelectric device (Figure 3) as claimed, comprising p- and n-type thermoelectric elements (52 and 54) and inner (48) and outer (56) metallic rings that provide contacts to the thermoelectric material.  
(Column 6, lines 4-43)

Regarding claim 2, any thermoelectric device can operate either as a cooling device or an electricity generator as claimed. Mitchell et al disclose such function at Column 7, lines 1-19.

Regarding claim 3, as noted above, there is no further limitation positively recited in this claim, and the claim is therefore rejected on the same grounds applied to claim 1 above. In addition, if the respective inner and outer radii of the thermoelectric material are what Applicant intends to define as  $r_1$  and  $r_2$ , tunneling would certainly occur once the difference between radii was sufficiently small to allow tunneling.

Regarding claim 4, electrons cause conduction within n-type materials, such as washers 52 that connect conductors 48 and 56. Electrons read on “ionized matter”.


**Conclusion**

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Jeffrey T. Barton whose telephone number is (571) 272-1307. The examiner can normally be reached on M-F 9:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JTB  
16 October 2007

  
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TECHNOLOGY CENTER 1700